

CLAIMS

1. An object entity stored in a computer-readable medium for use with a user interface system for a process plant, the object entity comprising:  
  
a first portion defining graphics for a depiction of a process plant element of the process plant via the user interface; and,  
  
a second portion identifying a data source for data indicative of on-line operation of the process plant element to be displayed via the depiction;  
  
wherein the first portion is set forth in a declarative format.
2. The object entity of claim 1, wherein the first portion defines an instance of a shape object utilized in rendering the depiction.
3. The object entity of claim 1, wherein the first portion defines an instance of a composite shape object utilized in rendering the depiction.
4. The object entity of claim 1, wherein the declarative format is in accordance with an extensible markup language.
5. The object entity of claim 1, wherein the declarative format comprises a vector graphics format for script defining the graphics.

6. The object entity of claim 1, wherein the first portion further defines a data conversion parameter to specify a graphical depiction of the data indicative of on-line operation of the process plant element.

7. The object entity of claim 1, further comprising a third portion defining a method to be implemented to simulate the on-line operation of the process plant element.

8. The object entity of claim 7, wherein the third portion is set forth in the declarative format.

9. The object entity of claim 1, wherein the second portion is set forth in the declarative format.

10. The object entity of claim 1, wherein the graphics include animated elements having animation indicative of the on-line operation of the process plant element.

11. A user interface system for a process plant, comprising:
- a computer-readable medium;
  - a graphic display editor to configure a process graphic display having a graphic display element representative of a process plant element of the process plant, wherein configuration information for the process graphic display generated by the graphic display editor is stored in the computer-readable medium in accordance with a declarative language; and,
  - a graphics rendering engine to generate a depiction of the process graphic display during runtime based on commands derived from the configuration information.
12. The user interface system of claim 11, wherein the declarative language defines an extensible format for expressing the configuration information.
13. The user interface system of claim 11, wherein the configuration information is stored in accordance with an object model framework based on the declarative language.
14. The user interface system of claim 13, wherein the object model framework defines primitive shape objects made available by the graphic display editor to configure the process graphic display to include an additional graphic display element constructed from the primitive shape objects.

15. The user interface system of claim 13, wherein the object model framework defines a composite object made available by the graphic display editor to configure the process graphic display to include an additional graphic display element constructed from the composite object.

16. The user interface system of claim 13, wherein the graphic display editor comprises graphical editing tools to create the composite object from previously constructed process model objects stored in the computer-readable medium.

17. The user interface system of claim 16, wherein the graphical editing tools are defined via the object model framework.

18. The user interface system of claim 11, wherein the declarative language is an extensible markup language.

19. The user interface system of claim 11, wherein the declarative language defines an XML-based format for describing the configuration information.

20. The user interface system of claim 11, further comprising a conversion engine to generate the commands in accordance with a further declarative language based on graphics-related information of the configuration information.

21. The user interface system of claim 20, wherein the further declarative language sets forth the graphics-related language in accordance with a vector graphics format.

22. The user interface system of claim 20, wherein the conversion engine further generates further commands specifying a data conversion routine for the graphic display element.

23. The user interface system of claim 20, wherein the conversion engine further generates a data source reference file from the configuration information for the process graphic display that identifies a data source for data to be displayed in connection with the graphic display element.

24. A method of configuring a user interface system for a process plant, comprising:

using an object defining a composite graphical element to create a plurality of instances thereof in respective process graphic displays to be depicted via the user interface;

storing data in a computer-readable medium of the user interface system defining the plurality of instances of the composite graphical element; and

automatically updating the plurality of instances of the composite graphical element by modifying the object.

25. The method of claim 24, wherein the object comprises a definition set forth in an XML-based graphics language.

26. An object entity stored in a computer-readable medium for use with a user interface system for a process plant, the object entity comprising:

a graphics portion defining graphics for a depiction of a process plant element of the process plant via the user interface;

a parameters portion identifying configurable aspects of the graphics; and,

a navigation portion identifying data sources for content to be displayed in connection with the graphics;

wherein the graphics portion, the parameters portion, and the navigation portion are stored in the computer-readable medium discretely.

27. The object entity of claim 26, wherein the computer-readable medium comprises a plurality of memory storage devices, such that the graphics portion, the parameters portion, and the navigation portion are not stored on a single memory storage device.

28. The object entity of claim 26, wherein the graphics portion comprises a description in an XML-based graphics language.